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ABSTRACT

The elective quinmester art course, designed for grades seven through twelve, focuses on helping students develop an appreciation for sculpture, creative abilities, and "sculptural awareness", i.e., realize the impact that various forms of sculpture in the environment have on individuals. The curriculum guide includes outlined sections on rationale, guidelines, behavioral objectives, course content, course procedures, strategies, suggested learning activities, and film and textbook resources for pupils and teachers. Related documents are SO 005 269, SO 005 271, and SO 005 273. (SJM)

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AUTHORIZED COURSES OF STUDY FOR THE QUINMESTER PROGRAM

SB005207

THREE DIMENSIONAL DESIGN
(SCULPTURE)
6681.09

Art Education

DADE COUNTY PUBLIC SCHOOLS

DIVISION OF INSTRUCTION•BULLETIN IQ•JANUARY 1972

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ART

THREE DIMENSIONAL DESIGN

(SCULPTURE)

(Tentative Course Outline)

6681.09
6682.09
6683.10

Written by: Edward R. Dubocq

for the

DIVISION OF INSTRUCTION

Dade County Public Schools
Miami, Florida
1971

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A. Films

B. Textbooks

I. COURSE TITLE:

ART: THREE DIMENSIONAL DESIGN
(SCULPTURE)

II. COURSE NUMBERS: 6681.09
6682.09
6683.10

III. RATIONALE:

Sculpture: "Plastic, or hard materials that have been welded, carved, engraved, molded or constructed into a primarily three dimensional work of art." *

We are constantly surrounded by varying forms of sculpture in our natural environment. "Sculpture" can entail any three-dimensional form around us from a tree to an ornate building. Sculpture, in one way or another, affects every day of our lives; through an object that is pleasing to the eye, or a functional unit of sculptured steel - the modern automobile.

This course has been designed with a three fold purpose: first, to create an awareness of the effect sculptured forms have on our environment. Secondly, to introduce the area of sculptural art appreciation, and, thirdly, to develop the creative abilities of the student.

IV. COURSE DESCRIPTION:

A. Elective, grades 7-12, exploratory

B. Textbooks and Other Materials:

Text materials, visuals, vocabulary lists, etc. are provided in parts IX and X of this Quinmester Course of Study. It is suggested that references marked with an asterisk be kept on hand for students use in the classroom.

C. Vocational Scheme:

To prepare the student for more advanced courses in the area of sculptural art and for activities where a background of basic sculpture skills is required.

D. Method: (by week)

Lecture, demonstration, research, problem solving, studio work, critique and final evaluation.

E. Synopsis:

Note: There are suggested presentation outlines for each of the sub-headings in this section. They are located in part VIII.

Course of Study

1. Plaster sculpture appreciation.
2. Techniques
    a. Solid plaster carving
    b. Plaster and vermiculite carving
    c. Plaster over armature
    d. Plaster draping
3. Clay sculpture appreciation
4. Clay techniques
    a. Slab, cylinder and sphere construction
    b. Direct carving
    c. Armature construction
        (1) Removable armature
        (2) Permanent armature
    d. Waste mold
5. Combined media techniques

V. ENROLLMENT GUIDELINES

A. Prior course: None

B. Evaluative device:

Empirical testing should be followed.

C. Concurrent programs:

There is no specific program that must be taken concurrently.

VI. BEHAVIORAL OBJECTIVES

A. Competencies expected upon completion of this course: The student will be able to:

1. List correctly the procedures for the following plaster techniques:
   a. Solid plaster carving
   b. Plaster and vermiculite carving
   c. Plaster over armature
   d. Plaster draping
2. Define verbally or in writing, the following vocabulary terms listed in part VIII.
3. List and identify a minimum of three plaster sculptors historical and/or contemporary.
4. Demonstrate the correct care and use of plaster sculpturing tools and related materials.

5. Demonstrate the correct procedures for working in a plaster sculpture studio.
6. Create open and closed forms in plaster.
7. Create and present for grade a minimum of two sculptural examples (selected from the four presented on plaster in part VIII of this course outline).
8. List and define correctly, the following procedures for clay sculpture.
    a. Slab, cylinder and sphere construction
    b. Direct carving
    c. Armature construction
        (1) Removable armature
        (2) Permanent armature
    d. Waste mold
    e. Combined media
9. List and identify a minimum of three historical and/or contemporary clay sculptors.
10. Create open and closed forms in clay.
11. Create and present for grade a minimum of two sculptural examples selected from the five presented on clay in part VIII of this course outline.

12. Demonstrate the correct care for, and use of clay sculpting tools and related materials.
13. Demonstrate the correct procedures for working in a clay studio.
14. Properly knead and wedge clay.
15. Correctly join clay pieces by painting on slip and scoring.

B. The student will demonstrate competencies under the following conditions:
   1. Classroom discussion
   2. Individual research
   3. Individual studio procedure
   4. Group critique
   5. Empirical testing

C. Acceptable performance will be determined by the individual instructor on the basis of required projects turned in for grade, and empirical testing.

VII. COURSE CONTENT:

A. Introduction Plaster Sculpture

1. Lecture
2. Films
3. Demonstration
4. Resources
5. Discussion

B. Plaster Studio Procedures

1. Materials
2. Tools
3. Storage

C. Plaster Sculpture Techniques

1. Solid plaster carving
2. Plaster and vermiculite carving
3. Plaster over an armature
4. Plaster draping

D. Studio work

E. Critique

F. Introduction clay sculpture

G. Clay studio procedures

1. Materials
2. Tools
3. Storage

H. Clay Sculpture Techniques

1. Slab
2. Cylinder
3. Sphere
4. Direct carving
5. Armature construction
    a. Removable armature
    b. Permanent armature
6. Waste mold

I. Combined Media

J. Studio Work

K. Critique

VIII. COURSE PROCEDURES, STRATEGIES, AND SUGGESTED LEARNING ACTIVITIES:

A. Vocabulary List *

Instructor may use definitions provided, or have students research definitions as an assignment.

1. Armature: A framework built as a support for clay figures or object during construction.
2. Closed form: A form being solid in appearance; having no holes or cavities. A form that encloses space.
3. Direct carving: To carve a sculpture from one solid piece of media without building up or adding on of more material.
4. Draping: The process by which material is soaked in wet plaster and laid over an armature, creating a free flowing form.
5. Glazing: A process by which a piece of ceramic ware is coated with glass, by painting on and firing of a glaze.
6. Media (Sculpture): Any substance used in the construction of plaster or clay sculpture.

7. Open form: A form containing hollow areas, cavities, or holes (as opposed to closed forms).
8. Plaster: A composition of lime, sand and water.
9. Scoring: A process by which two pieces of clay are permanently joined by texturing the surfaces, painting with slip and pressed together.
10. Sculpture: Plastic, or hard materials that have been welded, carved, engraved, molded, or constructed into a primarily three dimensional work of art.
11. Sculptor: One who sculpes, or creates sculpture.
12. Sizing: A process in which a soap solution is used to coat the inside surface of a plaster mold to prevent sticking.
13. Slip: A mixture of clay and water used primarily in scoring and pouring casts
14. Studio: Any area designated for, or in which artistic creation takes place.
15. Texture: The structure of the surface of any work of art.

16. Vermiculite: A material formed by alteration of common mica used primarily for heating and insulation.

17. Waste mold: A mold used for converting sculptural pieces from clay to plaster. Only useable one time.

B. Procedure:

(Suggested instructor demonstration aid.)

The general procedures that apply to all forms of sculpture are discussed in this section. Individual procedures for specific sculpture projects are listed on the work sheets.

The primary guideline applying to all forms of sculpture is good three-dimensional design. In sculpture, one must relate his design to a free standing form that will be viewed from all sides. One should keep this fact in mind when designing his sketches or models. If a sculpture has been well designed, it will be pleasing to the eye from any angle.

As in painting or collage, the design should be developed through a series of thumbnail sketches. Develop an idea of what you want the sculpture to look like before you actually begin to carve. By doing a series of quick "shape" or "form" sketches, one will discover certain forms that appeal to a desired style of sculpting.

Another item to consider is the base or stand that will be used for the sculpture. It is easy to make the mistake of designing a base that destroys the visual impact of the sculpture. A well designed base will not detract from the interest created by the sculpture it is supporting. When the base is connected, it becomes a part of the sculpture. It should relate to the sculpture, and yet be subtle in its relationship.

Finally, in creating the sculpture, the finished piece should show "movement".

A piece of sculpture that appears to show "movement" or "action" has a much greater and more pleasing visual impact than one that appears to be stagnant, or unmoving.

There are more specific procedures and points that apply to your sculpture and they may be found on the individual work sheets.

C. Supplies and materials needed:

*	Plaster		Thin brass sheets
*	Clay		Burlap
	Oilcloth		Sizing
*	Wedging board		Bluing
	Grog (optional)		Metal snips
*	Natural sponges		Stapler
*	Carving tools (plaster)		Hammer
*	Sculpting tools (clay)		String
	Vermiculite		Wire cutters
	Wire screen		Balloons
	Masking tape		Wood dowels
	Rolling pin		Coat hangers
*	Water jars		Brushes (soft)
*	Damp box/drying area	*	Rags

(Area for mixing plaster (preferably outdoors).

D. Studio Procedures for Students

(This list may be duplicated and distributed to individual students.)

1. Students will be assigned an individual work and storage area for which he or she will be responsible.
2. Carving tools will be distributed on a sign-out basis. Students will be expected to demonstrate correct care for and use of carving tools.
3. At no time is plaster allowed near the sink area. A special area will be designated and used specifically for the mixing and pouring of plaster.
4. At no time will any student be allowed to use, touch, or move another student's projects or materials.
5. Monitors will be assigned to supervise certain areas.
6. Plaster and clay work areas will be separated and students will be required to use care when going from one area to the other in order to avoid contamination of the media.

7. All students will be required to furnish newspaper, and a "soft" mixing container (e.g., tupperware bowl).
8. At all times students will be expected to maintain a professional attitude towards their work, supplies, and fellow artists.

E. Hints for Instructors:

(Items requiring special attention).

1. There are many very good visual aids available. (Some are listed in this outline).
2. Plan the ordering of slides, film loops, etc. well in advance.
3. Design the studio so that there is a specific area to store all supplies. It makes for an excellent way of getting a quick assessment of where things are at the end of each period.
4. If you cannot create a "damp" box for clay projects, have clean rags on hand to keep the students projects moist.
5. Assign monitor positions.

6. Prepare a special area, outside if possible, for mixing and pouring plaster.
7. Supervise plaster mixing carefully to avoid waste.
8. Have a "reclamation" garbage can on hand for discarded clay.
9. If tools are at a premium, have students sign them out.
10. Don't let plaster get into the clay.
11. Allow students to turn in projects as they are completed. This helps add future storage space.
12. Have a monitor sweep up at the end of each period. Plaster dust spreads fast and gets into everything.

F. Work Sheets

Note: The following suggested work sheets have been designed as aids for the individual students. They may be duplicated and distributed to the students for reference, following the instructors demonstrations.

WORK SHEET 1

Plaster and Vermiculite Sculpture

Materials:

1. Plaster
2. Vermiculite
* 3. Plaster mold
* 4. Carving tools
* 5. (Spray paint)
* 6. Wood base

* indicates that student is to supply these items

() indicates optional item

Procedure:

1. Carefully mix one part plaster to two parts vermiculite - dry.
2. Add water, mixing thoroughly, until mixture is the consistency of heavy cream.
3. Pour the mixture into a watertight container and allow to dry overnight.
4. Peel away container and you are ready to carve.

Suggestions:

1. Have the vermiculite and plaster well mixed before adding the water.
2. This project may appeal more to female students, as plaster and vermiculite is softer and easier to carve than solid plaster.

Assignment:

1. Create one sculpture, at least 1/2 gallon in volume.
2. Sculpture must reflect good three-dimensional design.
3. Sculpture may be left as is or spray painted.

WORK SHEET 2

Solid Plaster Carving

Materials:

	1.	Plaster	* 5.	(Balloons)
*	2.	Mold	* 6.	(Spray paint)
*	3.	Mixing container	* 7.	(Shoe polish)
	4.	Carving tools	* 8.	Wood base

* indicates student is to supply these items

() indicates optional item

Procedure:

1. Add water slowly to plaster until mixture is consistency of heavy cream.
2. Pour mixture into watertight mold.
3. Allow to set overnight.
4. Peel away mold and begin to carve.

Suggestions:

1. Balloons added to the mold and taped in place will add interesting hollow areas to the form.
2. Mix the plaster completely before pouring.
3. Sculpture may be spray painted, antiqued with shoe polish, or left white.

Assignment:

1. Create one sculpture, at least 1/2 gallon in volume.
2. Sculpture must reflect good three-dimensional design.
3. Sculpture may be left as is, or decorated (see Suggestions: #3)

WORK SHEET 3

Plaster over Armature Sculpture

Materials:

	1.	Plaster	* 6.	Wire cutters
*	2.	Wire screen	* 7.	String
*	3.	Wood base	* 8.	(Varnish or paint)
*	4.	Staples	* 9.	(Shoe polish)
*	5.	Coat hanger wire	* 10.	(Sandpaper)

* indicates student is to supply these items

() indicates optional items

Procedure:

1. Form an armature from coat hanger wire wrapped in screen (the approximate shape of the sculpture desired).
2. Secure the armature firmly to the base.
3. Build up layers of plaster on the armature by mixing and applying small amounts at a time.
4. Once sculpture is built up to the desired size and shape, allow to dry.
5. Sand the surface of the sculpture to obtain the desired texture.
6. Paint or antique sculpture (optional).

Suggestions:

1. Plaster is difficult to sand, so try to apply it as smoothly as possible.
2. Mix small amounts of plaster, or it will set before you can apply it properly, causing waste.

Assignment:

1. Create one sculpture: minimum size - one foot square.
2. Sculpture may be decorated, or left white.
3. Sculpture must reflect good three-dimensional design.

WORK SHEET 4

Plaster Draping

Materials:

1. Plaster
* 2. Coat hangers
* 3. Cheesecloth
* 4. Wood base
* 5. Staples
* 6. String
* 7. (Paint)
8. Wire cutters

* indicates student is to supply these items

() indicates optional items

Procedure:

1. Design an armature out of wire and fasten it to the base.
2. Mix a small amount of plaster.
3. Dip a piece of cheesecloth into the plaster, then drape it over the armature in a flowing motion, making full use of folds and creases.
4. Allow plaster to dry as is, or build up desired areas with more plaster.
5. Sand, if desired.
6. Decorate, if desired.

Suggestions:

1. Do not make the armature shape too involved. Simple flowing lines are most effective.
2. Have the armature well secured to the base.

Assignment:

1. Create one sculpture, minimum size, one cubic foot.
2. Sculpture must reflect good three-dimensional design.
3. Sculpture may be left as is or decorated.

WORK SHEET 5

CLAY

Slab, Cylinder and Sphere Construction

Materials:

1. Clay
2. Carving tools
3. Rolling pin
4. Sponge
5. Oilcloth
* 6. Water jar
* 7. Clean rags
* 8. Temporary base
* 9. Permanent base

* student is to furnish these materials

Procedure:

1. Wedge clay.
2. Prepare small model of subject.
3. Divide model visually into slabs, cylinders, and spheres.
4. Slabs may be created by rolling out a lump of clay and trimming to size.
5. Cylinders are slabs with the ends scored together.
6. Spheres may be created by rolling a lump of clay into a ball, then neatly slicing the ball in half and hollowing the halves. The two halves may then be scored together--Be sure to leave a hole for ventilation.

7. Score all the pieces together, forming the desired shape, and smooth.
8. Add detail and allow to dry slowly.

Suggestions:

1. Leave ventilating holes in the piece to avoid accidents.
2. When allowing the piece to remain overnight, keep it moist by wrapping it in damp cloth.
3. Do not leave the piece more than 1/2" thick in any given area.

ASSIGNMENT:

1. Create one sculpture, using slab, cylinder and sphere construction.
2. Sculpture must weigh at least two pounds when completed.
3. Sculpture must reflect good three-dimensional design.
4. Sculpture may be left as is or glazed. (If sculpture is to be glazed, student should research glazing techniques found in texts from part IX.)

WORK SHEET 6

Direct Carving - Clay Sculpture

Materials:

1. Clay
2. Carving tools
* 3. Temporary base
4. Sponge
* 5. Water jar
* 6. Clean rags
* 7. Final base

* student is to furnish these materials

Procedure:

1. Wedge clay.
2. Prepare small model of subject.
3. Roughly shape a piece of wedged clay into the size of the finished object you want to sculpt.
4. Begin to directly carve the desired shape.
5. Before detail work is added, hollow the piece by either:
   a. Carving from the underside.
   b. Removing a piece of clay from the surface, hollowing the interior and replacing the piece.
6. Smooth and add detail work.
7. Allow to dry slowly.

Suggestions:

1. When allowing the piece to set overnight, keep it moist by wrapping it in damp rags.
2. Leave ventilating holes in the piece to avoid accidents in the kiln.
3. Do not leave the clay more than 1/2" thick in any given area.

Assignment:

1. Create one sculpture using the direct carving method.
2. Sculpture must weigh at least two pounds when completed.
3. Sculpture must reflect good three-dimensional design.
4. Sculpture may be left as is or glazed. (If sculpture is to be glazed, student should research glazing techniques found in texts from part IX).

WORK SHEET 7

CLAY

Armature Construction

Materials:

1. Wood dowels
* 2. Base
* 3. Wire
* 4. Newspaper
5. Tape

* indicates items to be supplied by students

Procedure:

1. Removable Armature:

This is an armature that is designed so that it may be removed easily from the sculpture. In this way the clay figure may be fired. Removable armatures are usually very simple in construction, such as a dowel stick that can be pulled out of the figure. If the subject to be sculptured is simple in design, the removable armature may be built up with newspaper to save time. However, this will later involve cutting the subject in half in order to remove the armature. The two halves are then reconnected.

2. Permanent Armature:

This type of an armature is used in sculptures that the artist intends to make a cast from. Since the armature cannot be removed, the piece cannot be fired in the kiln.

Basically whatever the artist has on hand may be used for a permanent armature, as he does not have to worry about removing the subject from the armature. The clay may later be salvaged in pieces after the cast has been made.

Suggestions:

1. An armature should only be used on a figure that needs that type of support.
2. When removing the figure from an armature, cut it off carefully - you will have to sew it together again.
3. Be sure to remove all armature material from the clay figure before firing.

Assignment:

1. Create one sculpture, on either permanent or removable armature. Sculpture must be at least three pounds in weight (including armature).

2. Sculpture must reflect good three-dimensional design.
3. Sculpture may be left in bisque state, or glazed. (If student desires to glaze the piece, he must research glazing techniques from the texts in part IX).

WORK SHEET 8

CLAY

Waste Mold

Materials:

	1.	Plaster	6.	Brush
*	2.	Finished sculpture (greenware state)	7.	Bluing
*	3.	Burlap strips	* 8.	Sizing
	4.	Sponge	9.	Mallet
	5.	Brass strips (shims)	10.	Chisel

* indicates materials to be supplied by students

Procedure:

The purpose of a waste mold is to reproduce a piece of clay sculpture in plaster. The actual mold is only useable one time - thus the name "waste" mold.

1. Prepare the leather-hard clay sculpture by checking for flaws, and adding last minute detail work.
2. Place shims (brass strips) into model in order to divide it into two or more sections for easy mold removal. (This step is difficult, and may be a problem. If you need help, ask the instructor).

3. Add bluing to plaster and apply first coat to clay model.
4. Prepare a mixture of very thin slip and apply one coat over the blue plaster. (This step makes for easier separation when chipping away the waste mold).
5. Continue to add layers of plaster until the mold is 3/4" to 1" thick.
6. Allow to dry thoroughly.
7. Separate the mold from the clay model by tapping with a mallet and chisel along the shims.
8. Remove residual bits of clay from inside the mold halves.
9. Size the inside of the mold. (Soap size may be purchased ready made from any local ceramic supply dealer).

   Size should be applied with a soft brush, then wiped off with a sponge that has been dipped in size and squeezed almost dry. Repeat this procedure until five coats have been applied and wiped. This will create a non-absorbent, glass like coating on the inside of the mold. Be sure to wipe off <u>all</u> excess size.

* 10. Plaster should be poured within 1/2 hour of sizing. Fasten the pieces of the mold together, using burlap strips dipped in plaster along the seams. Allow to dry.

11. Pour a small quantity of plaster into the mold and tip from side to side. By repeating this process several times, the casting can be built up to 1/2" in thickness. (The casting may be reinforced, if desired, by adding strips to the inside of the casting).

12. Allow casting to dry.

13. Carefully chip away the waste mold from the casting.

    Note: When you reach the blue layer of plaster, take extra care in chipping. The casting surface lies just below that layer.

Suggestions:

1. Be sure you have placed the shims correctly.
2. Do the sizing carefully. Do not allow the layers of size to build up thickly, as they will ruin the surface texture of the casting.
3. Once sizing has been applied, do not wait longer than 1/2 hour before pouring the casting.

4. Chip the waste mold off carefully:

Assignment:

1. Create one casting from an original sculpture, by the waste mold process.
2. The original sculpture must be two pounds or more in weight.
3. Sculpture must reflect good three-dimensional design.

WORK SHEET 9

Clay Sculpture - Combined Media

Materials:

* 1. Clay (bisque state)

* 2. Metal rods, metal sheets, glass, or other miscellaneous materials

* 3. Epoxy or glue

* student is to furnish these materials

Procedure:

1. Combined media, in this sense, means creating a sculpture that consists of clay in conjunction with other materials. For example:
   a. Cylindrical clay shapes threaded on metal rods.
   b. A fountain made of a clay figurine on a metal water tray.
2. Any combination of clay with other materials to form a complete sculpture may be considered a combined media project.

Suggestions:

1. Most media works well with clay. Use care in your selection. If in doubt, check with your instructor.
2. Check the type of glue, epoxies, etc., you use to be sure they adhere to the materials selected.
3. Do not combine too many different types of media. It will tend to make your sculpture too complicated.

Assignment:

1. Create one sculpture, using the combined media process. The finished sculpture must be at least two pounds in weight.
2. Sculpture must reflect good three- dimensional design.
3. Sculpture may be left in bisque state or glazed. (If sculpture is to be glazed, student should research glazing techniques in texts included in part IX).

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(It is suggested that resources marked with an asterisk be kept on hand in the classroom).

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X. RESOURCES FOR INSTRUCTORS:

Note: Movies marked with an asterisk have been selected during previewing as those most effective.

A. Movies, Films - Available through Dade County Board of Public Instruction - instructional materials division.

Clay Modeling for Beginners

22' BW	EJS	Tabletoppers	1-11644

* Craftsmanship in Clay: Simple Slab Methods

10' C	JS	Indiana Univ.	1-04136

Press Mold Ceramics

10' C	EJS	Allan Moore	1-04153

* Sculpture from Life

10' C	JS	Allan Moore	1-04131

* 19th Century Sculpture

C	JST		5-20158

* 29th Century Sculpture

C	JST		1-20159

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